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ABSTRACT

Although viable leadership models for schools with differing social contexts are in great demand, empirical studies of high school principals have not produced consistent results. This paper summarizes part of a larger project designed to identify leadership behaviors of principals in "gang-impacted" and other secondary schools. The research was stimulated by reports that menacing gang behavior at some schools was adversely affecting academic programs and the learning environment. The selection of 19 high schools in East Los Angeles County (California) was driven by concern about the area's rapidly increasing teenage Latino population and the Latino gang epidemic already rampant in Los Angeles City schools. The study conceptualized principal leadership behavior as derived from two separate, but related theoretical strands: theories about the multidimensionality of leadership and contingency theories about interaction between leadership behavior and organizational context. Multidimensional theories include behviors focused either on organizational goals or social and emotional aspects of the organization. Contingency theory asserts that different situations require and often produce different leadership behaviors. The study variables were school social context, four principal leadership behaviors, and seven pupil attitudes defining school climate. Results showed that patterns of principals' leadership behavior vary and that the relationships between these patterns and climates differ in schools with different social contexts. Principals in hostile schools exhibit significantly more control orientation and significantly less administrative task orientation than do principals in safe schools. Further conclusions are discussed. Included are 3 footnotes, 16 additional references, and 19 tables. (MLH)

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PRINCIPALS' LEADERSHIP BEHAVIORS IN GANG-IMPACTED HIGH SCHOOLS AND THEIR EFFECT ON PUPIL CLIMATE

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Introduction

Empirical studies of high school principals have not produced a consistent body of knowledge about school leadership behavior although viable models of leadership for schools with differing social contexts are much in demand. Because principals are central to maintaining school order and their interactions with pupils and adults are pivotal to attitudes about school, the leadership behavior of principals is a critical independent variable in understanding the process of secondary education.

This paper is a summary of part of a larger project designed to identify leadership behaviors of site-level principals in gang-impacted and other secondary schools (Schwartz & Stallings, 1987). The research was stimulated by reports that some schools attended by youth-gang members were so "out of control" they were physically and psychologically threatening to the people in them, and their academic programs had been affected so adversely that pupils were denied the educational opportunities secondary schools are presumed to provide.

Nineteen high schools, grades 10 to 12, in 13 school districts in the eastern part of Los Angeles County were selected for study. The choice of schools was driven by an interest in the rapidly increasing teen-age Latino population in that area and concern that the Latino gang phenomenon, which had reached epidemic proportions in some Los Angeles City high schools, would be replicated in the growing urbanizations of the County.

Principal leadership behavior as conceptualized in this research was derived from two separate, but related, theoretical strands: theories about the multi-dimensionality of leadership and contingency theories about interaction between leadership behavior and organizational context. Multi-dimensional theories typically include two leadership behaviors, one focusing on organizational goals and the other on the social and emotional aspects of the organization.[1] Although there are variations in the theoretical and empirical elaborations of these two dimensions, studies in education have been concerned primarily with the task and human relation orientations of administration.[2]

This study of principal leadership differs from previous research in that four independent dimensions are examined. The socio-emotional attribute (human relations, consideration, integration etc.) is retained in the Personal Orientation dimension. The goal attribute (task, production, initiating etc.) is divided into two separate dimensions which are more appropriate for "people processing" organizations such as schools: Administrative Task Orientation pertaining to orderly school operation and Instructional Task Orientation pertaining to activities related to the educational function and instructional goals. Instructional Task has special import in light of recent claims that principals' leadership in this area is crucial to the effectiveness of schools. The fourth dimension is Control Orientation, defined as the extent to which principals reach decisions without consultation or the participation of people affected by the decisions.

The second theoretical strand is contingency theory which asserts that different situations require, and often produce, different leadership behaviors. Contingency theories have gained in sophistication since Fiedler (1964) introduced his model, with Yukl's (1981) Multiple Linkage Model of Leadership being one of the most inclusive. Yet as Yukl (1981: 167) points out, contingency theories are so overly complex and ambiguously stated that few have been tested extensively and results from these tests are inconclusive.

The situational variable in the study is School Social Context defined by perceptions of school safeness and amount of gang-related activities on the campus. Although high schools are recognized as open systems in which school context is derivative of the external environment, including characteristics of youth in attendance, schools have independent effects on pupils as well. The situational contingencies arising from the social context are hypothesized to interact with and modify principals' leadership behavior which, in turn, affects school pupil socio-emotional climate.

From a combination of these two theoretical strands, the multi-dimensionality of leadership and contingency theory, the following were expected: (1) the four principals' leadership behaviors would vary independently so that there would be a potentially large number of principal leadership styles; (b) the principals' leadership behaviors in least safe, gang-impacted schools would differ from behaviors of principals in most safe, nongang-impacted schools; and (c) the relationships between the principals' leadership behaviors and pupils' school-related social and emotional attitudes defining school pupil climate would differ in the two school contexts. This research supports these expectations.

The Variables

The variables in this analysis, then, are school social context, four principal leadership behaviors, and seven pupil socio-emotional attitudes defining school pupil climate.

School social context was determined from both survey and interview data. Questionnaire responses, obtained from 13 to 25 randomly selected teachers in each school who acted as informants about their schools and from 150 to 250 tenth-grade pupils in ungrouped social studies classes in the same schools, were aggregated into Guttman scales and indexes. In addition, focused-interview data were obtained

from the principal, vice principals and two counselors in each school. Perceived safeness of the school by pupils and teachers was operationalized by scores on the Pupils' Feelings of Physical Insecurity at School Guttman scale and the Teachers' Perception of the Safeness of Different Places on Campus index (Schwartz & Stallings, 1987). The amount of gang activity at school was determined from: teachers' responses to items about their own experiences with gang members and their perceptions of gang members' relations with other pupils at school; perceptions of administrators and counselors about gang activity on campus; and pupils' awareness of gang members and gang activity at school.

These two summary measures were cross-classified to create a typology of school contexts. Twelve of the 19 sampled schools fell into one of two congruent types: seven were Most Safe with Least Gang Activity and five were Least Safe with Most Gang Activity. The seven mixed-type schools were removed for this analysis, delimiting it to the 12 congruent types that define educationally Favorable and Unfavorable school contexts. These schools are displayed by school context in Table 1 with the rankings of each on the defining variables.

(Table 1 about here.)

The mean demographic and achievement characteristics of schools in the two contexts (Table 2) indicate that Least Safe, Most Gang Activity schools present a comparative educational disadvantage to their pupils. On measures of parent education, family poverty, school expenditures, and community racial-ethnic balance, all of which have been shown to be related empirically to pupils' achievement (Coleman et al., 1966), Least Safe, Most Gang Activity schools are significantly lower. Moreover, mean academic achievement, as measured by the schools' State percentile rankings in reading, math, writing and spelling on the California Achievement Tests, indicate that pupils in Least Safe, Most Gang Activity schools do not perform as well.

(Table 2 about here.)

Principals' leadership behaviors were determined from questionnaire responses of teachers. Since leadership is conceptualized as a social transaction or interpersonal act, the interpretations given by teachers to the recurring patterns of behavior of their principals best describe principal leadership style. Principals' Personal Orientation, Instructional Task Orientation and Control Orientation are operationalized as scores on Guttman scales. Items comprising the Administrative Task Orientation measure, although intercorrelated (biserial correlations between .52 and .76), are not sufficiently ordered to meet the Guttman scale criterion of .9 Coefficient of Reproducibility and, therefore, were combined into an index. The principals' leadership behavior measures are presented in Attachments A-1 through A-4 with associated statistics.

That leadership behavior varies among the principals is seen in the typology constructed from the four principal behavior variables (Table 3). The 12 principals fall into 10 identifiable patterns indicating that each principal combines leadership behaviors in different proportions to create individual administrative styles.[3]

(Table 3 about here.)

Nevertheless, some generalizations can be made about differences and similarities between principals in the two types of schools. With respect to behavior designed to create and maintain an orderly school environment, principals in the Unfavorable school context of Unsafe, Most Gang Activity schools rely on Control Orientation more heavily than other principals, whereas principals in the Favorable school context of Safe, Little Gang Activity schools rely more heavily on Administrative Task Orientation. This is seen in Table 4 which displays means and t-test results for the four principal behaviors in the two school contexts. On the other hand, principals in both school types are equally and strongly concerned with the informal social system of their schools, as seen by their mean scores for Personal Orientation which are not only similar to one another, but higher than scores for the other

three leadership behaviors. In addition, principals in the two school types are similar in their involvement with the instructional process and the assistance they give teachers with the teaching function, indicated by the closeness of the mean Instructional Task scores for principals in the two school types.

(Table 4 about here.)

Social-emotional attitudes of pupils comprising school climate or ethos are operationalized by scores on seven relevant Guttman scales created from pupils' responses to questionnaire items measuring their perspectives about the formal structure and the informal personal aspects of their schools. The scales are the following: Fairness and Efficacy of School Rules; Legitimacy of School Control Over Pupils' Personal Behavior; Opportunity to Participate in School Governance; Teachers' Concern with Instruction; Positive Racial-Ethnic Relations at School; Pleasure from Grades; and Fondness for School. (See Attachments A-5 to A-11 for scale items and associated statistics.)

The mean scale scores and standard deviations of the variables defining school pupil climate in Favorable and Unfavorable school contexts are shown in Table 5. These social-emotional attitude measures indicate that the climate of Most Safe, Least Gang Activity schools is significantly more positive.

(Table 5 about here.)

To summarize the distribution of variables, schools that are perceived by their participants as Unsafe with Much Gang Activity compared to schools perceived as Safe with Least Gang Activity have: less money; more minority residents in the school district; more pupils from poor homes and more parents with little education; and lower scores on standardized achievement tests. The leadership styles of principals can be characterized by four separate behaviors which vary independently in that the 12 principals in this analysis fall into 10 different leadership behavior types. Principals in schools with Unfavorable contexts compared with principals in schools with Favorable contexts

were perceived by teachers as having higher Control Orientation and lower Administrative Task Orientation, although their Personal and Instructional Task Orientations were perceived similarly. The pupil climate in Unfavorable context schools is significantly less positive than climate in Favorable context schools.

Relationship Between Principals' Leadership Behaviors and Pupil Climate.

The major purpose of this analysis is to learn if, as contingency theory predicts, the relationships between principals' leadership behaviors and school pupil climate differ in schools of different social contexts. To determine this, the contributions of each of the four leadership behaviors to the seven pupil social-emotional attitudes which define school climate were calculated for the two school types using canonical correlation analysis. This method is a generalized multiple regression technique which permits simultaneous examination of a large number of independent and dependent variables. In brief, separate linear composites or variates are formed for the independent and dependent variables which are then correlated yielding canonical correlations coefficients (Kerlinger & Pedhazur, 1973: 342). This method differs from multiple regression in that the matrix of canonical correlations coefficients, not regression coefficients, is used for the multivariate analysis. The major advantage of canonical analysis over multiple regression is that it yields more than one set of coefficients, each based on a separate set of variance. In this sense it resembles factor analysis which produces multiple factors, each orthogonal to the others, with separate loadings for variables on each factor (342-345).

The canonical analysis performed on data from the original 19 high schools yielded three meaningful linear composites, referred to here as Variates 1 through 3 (Discriminant Analysis, SPSSX, 1983: 489-450). Canonical coefficients that are .4 or above between the variable and

the linear composite or variate are displayed in Table 6. For Variate 1, negative Control is the important independent variable and positive Opportunity to Participate in School Governance and positive Fondness for School are most important dependent variables. For Variate 2, negative Control and positive Personal and Administrative Task orientations are important independent variables and negative Teachers' Concern with Instruction, negative Fairness and Efficacy of School Rules, positive Legitimacy of School Control Over Personal Behavior, and positive Race-Ethnic Relations are important dependent variables. And for Variate 3, positive Administrative and Instructional Task orientations are the important independent variables and negative Legitimacy of School Control Over Behavior and negative Pleasure From Grades the important dependent variables.

(Table 6 about here.)

Canonical variable scores were built for the independent and dependent variables identified in the three linear composites by multiplying each variable by its associated coefficient as if it were a factor loading (Levine, 1977). The mean scores for the three sets of independent variables and the three sets of dependent variables were calculated separately for schools in the two school-context types and compared. All differences between the means of Most Safe, Low Gang schools and Least Safe, Most Gang schools are statistically significant. (See Table 7.)

(Table 7 about here.)

The final analysis was performed separately for the two school types. Its purposes were, first, to determine the relationships between principals' behavior and pupil climate in each of the three linear composites or variates and, second, to learn if and how these relationships differed in Unfavorable and Favorable school contexts. The Pearson correlation coefficients between the independent and dependent portions of each composite for the two school-context types are displayed in Table 8.

(Table 8 about here.)

These correlation coefficients indicate that some principal behaviors are associated to pupil climate in opposite ways in the two school contexts, whereas other behaviors have the same relationship in both. For example, negative Control, which is the crucial principal behavior in Variate 1, is significantly related to pupil school climate in schools with Favorable but not Unfavorable social contexts. Although theories that emphasize the importance of democratic leadership to organizational health (for example, Likert, 1961; McGregor, 1966; Kanter 1981) would anticipate the relationship found in Favorable contexts; its absence in Unsafe, Most Gang Activity schools warrants explanation.

The interpretation here is that a minimal level of physical and social-psychological comfort must be reached before organizational participation has a positive effect. Herzberg's (1966) hygiene factor of security which must occur before individuals are motivated to perform and Maslow's (1954) safety and physiological needs which must be satisfied before individuals attempt to satisfy higher order ones speak directly to this interpretation. Schools that are believed to be unsafe appear to need "take charge" administrators who maintain tight control over the school organization. This view is consistent with the general observation that decisive leadership requiring little or no consultation with subordinates is functional in organizations that experience stress and frequent emergencies (Bass, 1981; Fodor, 1976).

The analysis based on Variate 2 also suggests that the effect of leadership behaviors are contingent on the specific situation in that the independent canonical variables relate in significant but opposite ways to the dependent canonical variables within each school type. The independent variables in Variate 2 are negative Control Orientation, positive Personal Orientation, and positive Administrative Task Orientation. In the Unfavorable context of Least Safe, Most Gang Activity schools they relate negatively to the formal structure dependent variables of perceptions of fair and effective school rules and teachers'

concern with instruction, but relate positively to the informal personal perceptions of positive racial-ethnic relations and belief that school has legitimate control over pupils' personal behavior. These relationships are reversed in the Favorable context of Most Safe, Least Gang Activity schools wherein the independent variables are related to positive perceptions of the two formal structure variables and to negative perceptions of the informal personal variables. The analysis of Variant 2 again raises the issue of the need for a controlling management style in schools with Unfavorable social contexts.

To clarify the relationships in Variate 2, Pearson correlation coefficients were calculated between selected independent and dependent canonical variables. The dependent canonical variables were divided into two groups, one pertaining to pupils' perceptions of the school's formal structure (school rules and teacher's concern with instruction) and the other to informal personal aspects of the school (perceptions of legitimacy of school control over personal behavior and racial-ethnic relations). The independent canonical variables are negative Control Orientation and positive Personal and positive Administrative Task orientations. These are correlated separately and in combination with the formal structure and informal personal dependent canonical variables.

(Table 9 about here.)

All correlation coefficients between these independent and dependent canonical variables are displayed in Table 9, although only coefficients above .2 are sufficiently strong for discussion. The unique positive relationship between Control Orientation and school pupil climate in Least Safe Much Gang Activity schools is sharpened by this analysis, for negative Control is inversely related to both formal structure and informal personal dependent variables (r=.61 and .45 respectively) although it is related negatively to structure variables and unrelated to informal personal variables in Most Safe, Least Gang Activity schools.

In addition, Administrative Task is negatively related to formal structure variables and unrelated to the informal personal ones in Unfavorable school contexts, whereas in Favorable school contexts it is positively related to both.

This analysis shows further that the relationship of the Personal Orientation of principals to school climate depends both on the school context and on the variables considered. In Unfavorable school contexts, principals' Personal Orientation is related positively to both groups of dependent variables, whereas in Favorable school contexts it is related positively to formal structure variables but related negatively to the informal personal ones. Whether Personal Orientation is interpreted as "particularism" and/or "overcontrolling" by pupils in Favorable school contexts is not clear from these data.

The analysis within Variate 3 demonstrates that some patterns of leadership have the same effect in different school contexts. The independent canonical variables examined from Variate 3 are the two instrumental orientations of Administrative Task and Instructional Task. Each is correlated negatively with the informal personal canonical variables of pleasure from grades and the schools' legitimate control over pupils' behavior in both school types (Table 8). These negative relationships between task orientations and attitudes toward the informal personal aspects of the school underscore the importance of Personal Orientation in school administration. This finding gives support to multi-factor theories of leadership (see footnote 1) which contend that people respond positively when they believe their leaders care about their happiness. Principals must attend to human relations within their schools as well as to organizational maintenance and instructional goals.

Summary and Conclusions

The analysis presented here has demonstrated that patterns of leadership behavior of high school principals vary and that the relationships between these patterns and school pupil climates differ in schools with different social contexts. Principals in schools that are hostile or potentially hostile, such as gang-impacted schools, exhibit significantly more control orientation and significantly less administrative task orientation than do principals in safe schools. Further, the behaviors of high control and of low administrative task are related positively to pupil climate in gang-impacted schools and are related negatively in nongang schools. These findings support contingency theories of leadership in that there is no one preferred style for all secondary schools. The predominant leadership behavior of principals in each school type is that which is most related to positive pupil climate.

On the other hand, principals in both school types emphasize the personal orientation of their roles. The affective side of social interaction is a critical ingredient of principal leadership for in its absence instrumental-oriented behaviors are related negatively to school pupil climate. In fact, the only relationship between principals' concern with instruction and school climate is the negative one which occurs when personal orientation is lacking. The reason principals' instrumental orientation is not more related to pupil climate is that it acts on pupils only indirectly through the mediation of their teachers.

The question remains as to whether leadership behaviors inhere in the personality of principals, as Fiedler (1969) suggests, or are adjustments made to the needs of the social context of their school, as contended by Hershey and Blanchard (1982). Discussions with superintendents in the districts studied indicate the latter. In response to questions about the criteria they employ in selecting principals, almost all reported that "humanistic" leader-

ship is critical. However, leadership style was not an issue in the assignment of a principal to a particular school, for the only criterion noted was knowledge of the "culture of the parents." If superintendents believe the principals' patterns of behaviors should be school-context specific, they must assume that principals will develop appropriate styles at the school site.

Footnotes

[1].For examples see: Etzioni, A. 1975. A Comparative Analysis of Complex Organizations. NY: Free Press (instrumental and expressive); Getzels, J.W. & Guba E.G. 1957. Social behavior and the administrative process. School Review, 65 (nomothetic and idiographic); Cartwright, D. & Zander A. 1968. Group Dynamics Research and Theory. Evanston, IL: Row, Peterson. (goal achievement and group maintenance); Halpin, A.W. Theory & Research in Administration. 1966. NY: Macmillan. (initiating structure and consideration.)

[2].For example see: Halpin op. cit.; Brown, A.F. 1967. Reactions to leadership. Educational Administration Quarterly 3, 62-73; Kunz, D. & Hoy W.K. 1976. Leader behavior of principals and the professional zone of acceptance of teachers. Educational Administration Quarterly, 12, 49-64.

[3].A principal component factor analysis to determine the contribution of each behavioral dimension to the overall factor of Principal Leadership produced the following factor scores: Instructional Task .236; Administrative Task .185; Personal Orientation .433; and Control Orientation -.278. (Factor, SPSSX, 1983).

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Table 1. Two School Contexts with Schools Rank Ordered by Gang Activity and Lack of Safeness.

	School Rank Order*		
	Gang Activity	Lack of School Safeness	
	Perceptions of Pupils and Educators Combined	Perceptions of: Pupils	Teachers
	Unfavorable School Context		
School A			
Gang Membership	2		
Negative Activity	3	6	1
School B			
Gang Membership	2		
Negative Activity	7	3	6.5
School C			
Gang Membership	5		
Negative Activity	6	5	6.5
School D			
Gang Membership	8		
Negative Activity	4	2	3
School E			
Gang Membership	5		
Negative Activity	8	9	9
	Favorable School Context		
School M			
Gang Membership	8		
Negative Activity	14	14	13.5
School N			
Gang Membership	13.5		
Negative Activity	9	11	15
School O			
Gang Membership	17		
Negative Activity	16	18	10.5
School P			
Gang Membership	13.5		
Negative Activity	15	17	16
School Q			
Gang Membership	17		
Negative Activity	17	13	18
School R			
Gang Membership	15		
Negative Activity	19	15	17
School S			
Gang Membership	19		
Negative Activity	18	19	19

*Rankings are of 19 schools on Gang Activity and Lack of Safeness. Unfavorable Contexts are schools above both means and Favorable Contexts are schools below the means.

Table 2. Summary of Demographic Information and Achievement Test Scores for Schools with Most and Least Gang Activity.

School Characteristic	Mean	S.D.
Demographic Information		
Expenditure per ADA		
Most Gang Activity	$1,978	567.40
Least Gang Activity	$2,201	58.04
White Residents in District		
Most Gang Activity	54%	3.71
Least Gang Activity	77%	4.82
School State-Ranking in Pupils Receiving AFDC		
Most Gang Activity	87	5.19
Least Gang Activity	40	16.04
School State-Ranking in Parents' Education		
Most Gang Activity	8	4.88
Least Gang Activity	54	16.08
California Achievement Test Scores		
Reading Percentile		
Most Gang Activity	9.6	6.44
Least Gang Activity	59.7	15.98
Math Percentile		
Most Gang Activity	12.0	7.18
Least Gang Activity	51.0	18.94
Writing Percentile		
Most Gang Activity	10.4	6.37
Least Gang Activity	52.2	15.44
Spelling Percentile		
Most Gang Activity	26.8	19.39
Least Gang Activity	51.8	18.19

Table 3. Typology of Schools by Principals' Leadership Behavior.

	ADMINISTRATIVE TASK ORIENTATION*			
	Low		High	
INSTRUCTIONAL TASK ORIENTATION*	Low	High	Low	High
CONTROL ORIENTATION*				
Low				
PERSONAL ORIENTATION*				
Low	O**			
High	E D	M	N	Q
High				
PERSONAL ORIENTATION				
Low	C	P	R	A B
High				S

*The grand mean is the cutting point between high and low scores for each behavior.

**Schools A thru E are relatively Unsafe with Most Gang Activity; schools M thru S are relatively Safe with Little Gang Activity. Seven of the 19 schools sampled are deleted from this typology. (See Schwartz & Stallings, 1987.)

Table 4. Means and Standard Deviations of the Dimensions of Principals' Leadership Behavior in Schools with Most and Least Gang Activity.

Principals' Leadership Behaviors	Mean[a]	Standard Deviation	N*	T-Value**	Two-Tail Probability
Control Orientation					
Much Gang Activity	2.71	1.24	(82)		
Least Gang Activity	2.29	1.19	(137)	2.43	.016
Personal Orientation					
Much Gang Activity	3.51	1.40	(86)		
Least Gang Activity	3.70	1.42	(144)	-1.02	.308(n.s.)
Administrative Task Orientation					
Much Gang Activity	2.82	1.35	(87)		
Least Gang Activity	3.43	1.33	(141)	-3.36	.001
Instructional Task Orientation					
Much Gang Activity	2.61	1.36	(84)		
Little Gang Activity	2.69	1.23	(144)	-.48	.629 (n.s.)

[a]Means for the 19 schools studied are: Control 2.49; Personal 3.53; Administrative Task 3.28; and Instructional Task 2.60.

*Number of teacher questionnaires from which principals' behaviors were derived.

**Based on separate variance estimates.

Table 5. Means and Standard Deviations of Pupils' Orientations in Schools with Most and Least Gang Activity.

Pupils' Orientations to School	Mean	Standard Deviation	N*	T-Value**	Two-Tail Probability
Fairness and Efficacy of School Rules[a]					
Much Gang Activity	2.21	.10	(703)		
Least Gang Activity	2.22	.09	(1452)	-3.13	.002
Legitimacy of School Control Over Pupils' Personal Behavior[b]					
Much Gang Activity	2.20	.14	(703)		
Least Gang Activity	2.33	.19	(1452)	-17.83	.000
Teachers' Concern with Instruction[b]					
Much Gang Activity	2.73	.14	(703)		
Least Gang Activity	2.77	.04	(1452)	-8.10	.000
Opportunity for Pupils to Participate in School Governance[b]					
Much Gang Activity	1.83	.58	(703)		
Least Gang Activity	1.99	.17	(1452)	-7.14	.000

table continued

table 5 continued

Pupils' Orientations	Mean	Standard Deviation	N*	T-Value**	Two-Tail Probability
Positive Racial-Ethnic Relations at School[a]					
Much Gang Activity	2.84	.14	(703)		
Least Gang Activity	3.24	.21	(1452)	-63.42	.000
Pleasure From Grades[b]					
Much Gang Activity	3.98	.11	(703)		
Least Gang Activity	4.03	.10	(1452)	-.92	.000
Fondness for School[b]					
Much Gang Activity	3.24	.17	(703)		
Least Gang Activity	3.18	.13	(1452)	8.22	.000

*Number of pupil questionnaires from which pupils' orientations were derived.
**Based on separate variance estimates.
[a]Four-point Guttman Scale. [b]Five-point Guttman Scale.
[c]Seven-point Guttman Scale. [d]Three-point Guttman Scale.

Table 6. Correlations Between Canonical Variates and Variables for the Total Sample of Schools.

Variables	Variate 1	Variate 2	Variate 3
Independent			
Control Orientation	-.774	-.453	
Person Orientation		.499	
Administrative Task Orient.		.638	.713
Instructional Task Orient.			.911
Dependent			
Opportunity to Participate in Sch. Gov.	.477		
Fondness for School	.448		
Fairness & Efficacy of Sch. Rules		-.419	
Legitimacy of Sch. Control Over Behavior		.477	-.500
Teachers' Concern with Instruction		-.541	
Positive Race-Ethnic Relations		.421	
Pleasure from Grades			-.588

Table 7. Comparisons Between Mean Canonical Scores for Independent and Dependent Variates in Most Gang Activity and Least Gang Activity Schools.

Canonical Variates*	Mean	Standard Deviation	N*	T-value**	Two-Tail Probability
Independent					
Variate 1					
Much Gang Activity	-1.98	.51	703		
Least Gang Activity	-1.72	.39	1452	-12.13	.000
Variate 2					
Much Gang Activity	2.66	.47	703		
Least Gang Activity	3.06	.76	1452	-15.13	.000
Variate 3					
Much Gang Activity	4.76	.66	703		
Least Gang Activity	4.91	.82	1452	-4.49	.000
Dependent					
Variate 1					
Much Gang Activity	2.32	.34	703		
Least Gang Activity	2.37	.13	1452	-3.65	.000
Variate 2					
Much Gang Activity	-.16	.08	703		
Least Gang Activity	.04	.14	1452	-41.53	.000
Variate 3					
Much Gang Activity	-3.44	.12	703		
Least Gang Activity	-3.53	.10	1452	17.61	.000

*Number of pupil questionnaires from which canonical variate scores were derived.
**Based on separate variance estimates.

Table 8. Pearson Correlation Coefficients Between Independent and Dependent Canonical Variate Scores for Most Gang and Least Gang Activity Schools.

Dependent Canonical Variates	Independent Canonical Variates		
	Variate 1	Variate 2	Variate 3
Variate 1			
Least Safe, Much Gang Activity	-.004		
Most Safe, Least Gang Activity	.486*		
Variate 2			
Least Safe, Much Gang Activity		.676*	
Most Safe, Least Gang Activity		-.317*	
Variate 3			
Least Safe, Much Gang Activity			.694*
Most Safe, Least Gang Activity			.708*

*Significant at .000 level.

Table 9. Pearson Correlation Coefficients Between Independent and Dependent Canonical Variables Loaded from Variate 2 in Most Gang and Least Gang Activity Schools.

Independent Canonical Variables[a]	Dependent Canonical Variables[a] -Fairness of Rules -Teachers' Concern with Instruction	+Legitimate Control over Behavior +Positive Race-Ethnic Relations
-Control +Personal +Administrative Task		
Least Safe, Much Gang Activity	.475*	.015
Most Safe, Least Gang Activity	-.494*	-.173
-Control		
Least Safe, Much Gang Activity	.613*	-.449*
Most Safe, Least Gang Activity	-.255*	-.174
+Personal		
Least Safe, Much Gang Activity	-.201*	.521*
Most Safe, Least Gang Activity	-.686*	-.491*
+Administrative Task		
Least Safe, Much Gang Activity	.413*	-.155*
Most Safe, Least Gang Activity	-.217*	.260*

*Significant at .000 level.
[a]See Table 6, Variate 2 for canonical loadings of variables.

Table A-1 Index: Teachers' Perception of the Principal's Leadership Style: Administrative Task Orientation.

Item[a]		Index Score* 5	4	3	2	1
Are the responsibilities of each administrator clear to teachers?[a]		+	-	-	-	-
Do the students have a clear idea of what behavior is allowed in school policy[a]		+	+	-	-	-
Are there written rules for students?[a]		+	+	+	-	-
Does the principal make each teacher understand his/her responsibilities?[b]		+	+	+	+	-
Index Scores	%	26.1	20.4	18.4	22.1	12.9
Base N=348	n	91	71	64	77	45

*Calculated as if a Guttman scale, but Coefficient of Reproducibility .85 is below the acceptable level.

[a] +=(always); 0=(sometimes/never)

[b] +=(strongly agree/agree); 0=(disagree/strongly disagree)

Table A-2 Guttman Scale: Teachers' Perception of the Principal's Leadership Style: Instructional Task Orientation.

Items[a]	Scale Type V	IV	III	II	I
The principal of the school:					
Reviews lesson plans[a]	+	0	0	0	0
Gives technical help with instruction[a]	+	+	0	0	0
Gives constructive advice about classroom management[a]	+	+	+	0	0
Gives the teachers feedback from their evaluations[a]	+	+	+	+	0
	24.4	28.9	19.2	18.6	8.9
Base N=349	85	101	67	65	31

Coefficient of Reproducibility: .921
Coefficient of Scalability: .740

[a] +=(strongly agree/agree); 0=(disagree/strongly disagree)

Table A-3 Guttman Scale: Teachers' Perception of the Principal's Leadership Style: Personal Orientation.

Items[a]	Scale Type V	IV	III	II	I
The principal of the school:					
Treats all teachers as professionals[a]	+	0	0	0	0
Is concerned with teachers morale[b]	+	+	0	0	0
The principal is fair in making assignments[b]	+	+	+	0	0
Is friendly with all teachers[b]	+	+	+	+	0
	37.6	19.0	15.5	13.2	14.7
Base N=348	131	66	54	46	51

Coefficient of Reproducibility: .904
Coefficient of Scalability: .726

[a] +=(always); 0=(often/seldom/never)
[b] +=(strongly agree/agree); 0=(disagree/strongly disagree)

Table A-4 **Guttman Scale:** Teachers' Perception of the **Principal's** Leadership Style: Control Orientation.

Items[a]	Scale Type V	IV	III	II	I
The principal of the school:					
Lets teachers share in making school policy[a]	+	0	0	0	0
Takes into account suggestions by teachers for changes in school policy[a]	+	+	0	0	0
Do students help make school rules?[b]	+	+	+	0	0
Do parents influence school policy?[b]	+	+	+	+	0
	5.4	18.5	27.2	18.2	30.7
Base N=335	18	62	91	61	103

Coefficient of Reproducibility: .918
Coefficient of Scalability: .735

[a] +=(never); 0=(seldom/often/always)
[b] +=(disagree/strongly disagree); 0=(agree/strongly agree)

Table A-5 Guttman Scale: Pupils' Perspective of Fairness and Efficacy of School Rules.

Item	Scale Type IV	III	II	I
Do the rules in this school make things go better?[a]	+	0	0	0
Do students know what the rules are?[a]	+	+	0	0
Do all students who break the same rules get the same punishments?[b]	+	+	+	0
	5.1	24.2	60.7	10.0
Base N=3,167	162	776	1,921	318

Coefficient of Reproducibility: .945
Coefficient of Scalability: .678

[a] +=(always); 0=(seldom/never/sometimes/often)
[b] +=(sometimes/often/always); 0=(seldom/never)

Table A-6 Guttman Scale: Pupils' Fondness for School.

Item	Scale Type V	IV	III	II	I
Do you think school is boring?[a]	+	0	0	0	0
Do you enjoy your classes at school?[b]	+	+	0	0	0
Do you like to do school work?[c]	+	+	+	0	0
All things considered do you like school?[c]	+	+	+	+	0
	11.1	29.0	39.7	14.0	6.2
Base N=3,276	363	950	1,301	458	204

Coefficient of Reproducibility: .935
Coefficient of Scalability: .711

[a] +=(seldom/never) 0=(sometimes/often/always)
[b] +=(often/always) 0=(sometimes/seldom/never)
[c] +=(sometimes/often/always) 0=(seldom/never)

Table A-7 Guttman Scale: Pupils' View of the Legitimacy of School Control over Personal Behavior.

Item[a]	Scale Type V	IV	III	II	I
Some people say school should be concerned w/ <u>everything</u> students do. Others say that school should be concerned <u>only w/ classwork</u>. Check whether you think each of the things listed below is the school's business.					
Getting tattooed	+	0	0	0	0
Drinking beer, wine or whiskey	+	+	0	0	0
Smoking Pot	+	+	+	0	0
Using Drugs	+	+	+	+	0
	7.9	22.7	8.9	8.8	51.6
Base N=3,196	254	727	285	282	1,648

Coefficient of Reproducibility: .957
Coefficient of Scalability: .859

[a] +=(yes); 0=(no)

Table A-8 Guttman Scale: Pupils' Opportunity for Participation in School Governance.

Item[a]	Scale Type V	IV	III	II	I
Can students get the rules changed?	+	0	0	0	0
Can students get unfair punishment changed?	+	+	0	0	0
Do students help make school rules?	+	+	+	0	0
Do students have anything to do with how the school is run?	+	+	+	+	0
%	4.2	5.2	14.0	29.0	47.6
n	132	164	440	908	1,491

Base N=3,135
Coefficient of Reproducibility: .935
Coefficient of Scalability: .711

[a] +=(often/always); 0=(sometimes/seldom/never)

Table A-9 Guttman Scale: Pupils' Self-Reported Pleasure from Grades.

Item	Scale Type V	IV	III	II	I
Do you like to get better grades than other students?[a]	+	0	0	0	0
Do you feel bad when you get low grades?[b]	+	+	0	0	0
When you get high grades do you feel extra happy?[b]	+	+	+	0	0
How important is it for you to get good grades?[c]	+	+	+	+	0
%	38.3	38.2	15.5	6.7	1.4
Base N=3,097 n	1,185	1,182	480	208	42

Coefficient of Reproducibility: .927
Coefficient of Scalability: .680

[a] +=(always); 0=(often/sometimes/seldom/never)
[b] =(often/always); 0=(sometimes/seldom/never)
[c] +=(It is very important);
0=(It is somewhat important/It doesn't matter)

Table A-10 Guttman Scale: Pupils' Perceptions of Positive Racial-Ethnic Relations at School.

Item		Scale Type IV	III	II	I
Do people from different racial and ethnic groups get along together in this school?[a]		+	0	0	0
In general, are racial and ethnic minorities treated fairly in school?[b]		+	+	0	0
Do teachers treat students the same regardless of their race or ethnicity?[c]		+	+	+	0
	%	38.5	33.4	23.4	4.7
Base N=3,159	n	1,216	1,055	738	150

Coefficient of Reproducibility: .906
Coefficient of Scalability: .695

[a] +=(usually/always); 0=(sometimes/seldom/never)
[b] +=(often; always); 0=(sometimes/seldom/never)
[c] +=(sometimes/often/always); 0=(seldom/never)